

CLAIMS

1. A method to produce an embossed web material, comprising at least two plies coupled to each other by gluing, comprising the phases of: producing on a first ply (V1) protuberances defining embossed decorative motifs; applying a glue to at least some of the protuberances defining the decorative motifs; making a second ply (V2) adhere to the first ply (V1) by means of said glue; characterized in that a colored pattern is applied to said first ply (V1) prior to producing said embossed decorative motifs by means of embossing.

2. Method as claimed in claim 1, characterized by the steps of:
- embossing the first ply (V1) to produce thereon a first series of protuberances (P1) forming an embossed background pattern;
  - applying an ink to at least some of the protuberances (P1) of said first series to form said colored pattern;
  - embossing said first ply (V1) again to produce thereon a second series of protuberances (P2) of a greater height and lesser density with respect to the protuberances of the first series and defining said decorative motifs, the protuberances of the first series and of the second series projecting from the same side of the ply;
  - applying to the protuberances (P2) of the second series a glue (C);
  - making a second ply (V2) adhere to the first ply (V1) by means of said glue.

3. Method as claimed in claim 2, characterized in that the protuberances (P1) of the first series have an average density ranging from 20 to 100 protuberances/cm<sup>2</sup> and preferably from 30 to 90 protuberances/cm<sup>2</sup> and even more preferably from 30 to 60 protuberances/cm<sup>2</sup>.

4. Method as claimed in claim 2 or 3, characterized in that the protuberances of the first series occupy a percentage lower than 25% of the total surface of the first ply and preferably between 1% and 20% of the total surface of the first ply and more preferably between 7 and 10 % of the total surface of the first ply.

5. Method as claimed in one or more of the previous claims, characterized in that said glue is colored.

6. Method as claimed in claim 5, characterized in that said glue

and said ink have different shades of a same color.

7. Method as claimed in one or more of the previous claims, characterized in that said second ply (V2) is embossed with background embossing prior to coupling with the first ply.

5 8. Method as claimed in claim 7, characterized in that said second ply is embossed with a third series of protuberances with an average density ranging from 20 to 100 protuberances/cm<sup>2</sup> and preferably from 30 to 90 protuberances/cm<sup>2</sup> and even more preferably from 30 to 60 protuberances/cm<sup>2</sup>.

10 9. Method as claimed in claim 7 or 8, characterized in that the protuberances of said third series occupy a percentage below 25% of the total surface of the second ply and preferably ranging from 5 to 20% of the total surface of the second play and more preferably from 7 to 10% of the total surface of the second ply.

15 10. Method as claimed in one or more of the previous claims, characterized in that the decorative motifs formed by the protuberances of the second series are distributed according to a density not exceeding 3 motifs/cm<sup>2</sup> and preferably around 1-5 motifs/dm<sup>2</sup>.

20 11. Method as claimed in one or more of the previous claims, characterized in that said colored pattern is produced by printing the first smooth ply.

12. Method as claimed in claim 11, characterized in that said first ply is micro-embossed after said colored pattern is applied.

25 13. Method as claimed in at least claim 1, characterized in that said printed pattern is a background pattern distributed essentially uniformly over the entire surface of the ply.

14. Method as claimed in at least claim 2, characterized in that at least some of the protuberances of the first series are colored to form said colored pattern.

30 15. Method as claimed in at least claim 2, characterized in that said protuberances of the first series are colored to form a colored background pattern.

16. Method as claimed in one or more of the previous claims, characterized in that said colored pattern is phased with said decorative

patterns to form a composite printed and embossed pattern.

17. A device to produce an embossed web material, including: an embossing unit (13) with an embossing roller (15) equipped with a series of protuberances (15P) defining decorative motifs; a glue dispenser (19),  
5 associated with said embossing roller (15) to apply a glue to a first ply (V1) embossed by said embossing unit (13); a laminating member (21) associated with said embossing roller to apply a second ply (V2) to the first ply (V1); characterized in that, disposed upstream of said embossing unit (13), along the path of the first web material (V1), are means to apply a colored pattern to  
10 said first ply (V1), prior to embossing by means of said embossing roller (15).

18. Device as claimed in claim 16, characterized in that said means to apply a colored pattern on the first ply comprise at least a printing unit.

19. Device as claimed in claim 18, including in combination: a first embossing unit (3) with a first embossing roller (5) equipped with a first series  
15 of protuberances (5P); a second embossing unit (13) with a second embossing roller (15) equipped with a second series of protuberances (15P) of greater height and lesser density with respect to the protuberances of said first series, said protuberances defining decorative motifs, said glue dispenser (19) being associated with said second embossing roller, to apply a glue at  
20 the protuberances of said second embossing roller; said laminating member (21) being associated with said second embossing roller (15); and wherein said at least one printing unit (9), which applies an ink to said first ply (V1) at some at least of the protuberances of the first embossing roller, is associated with the first embossing roller (5).

20. Device as claimed in claim 19, characterized in that the protuberances of the first embossing roller (5) have an average density ranging from 20 to 100 protuberances/cm<sup>2</sup> and preferably from 30 to 90 protuberances/cm<sup>2</sup> and even more preferably from 30 to 60 protuberances/cm<sup>2</sup>.

21. Device as claimed in one or more of claims 17 to 20, characterized in that said glue dispenser (19) contains a colored glue.

22. Device as claimed in one or more of claims 17 to 21, characterized in that the decorative patterns defined by the protuberances (15P) of the second series have a density not exceeding 3 motifs/cm<sup>2</sup> and

preferably ranging from 1 to 5 motifs/dm<sup>2</sup>.

23. Device as claimed in at least claim 18, including in combination: a first embossing unit (3) with a first embossing roller (5) equipped with a first series of protuberances (5P); a second embossing unit (13) with a second embossing roller (15) equipped with a second series of protuberances (15P) of greater height and lesser density with respect to the protuberances of said first series, said protuberances defining decorative motifs, said glue dispenser (19) being associated with said second embossing roller, to apply a glue at the protuberances of said second embossing roller; said laminating member (21) being associated with said second embossing roller (15); and wherein said at least a printing unit (9), which applies an ink to said first ply (V1), is disposed downstream or preferably upstream of said first embossing roller (5).

24. Device as claimed in one or more of claims 18 to 23, characterized in that said printing unit and said embossing roller equipped with protuberances (15P) defining said decorative patterns are phased with each other to produce composite printed and embossed patterns.

25. A sheet material comprising at least a first ply (V1) and a second ply (V2) glued together, wherein said first ply is equipped with at least a decorative embossing formed by a series of protuberances (P2); said first and said second ply being glued together by means of a glue applied at some at least of the said protuberances; characterized in that said first ply is equipped with a colored pattern.

26. Material as claimed in claim 25, characterized in that it comprises a first ply (V1) and a second ply (V2) glued together, wherein said first ply is equipped with background embossing formed by a first series of protuberances (P1) and decorative embossing formed by a second series of protuberances (P2) of lesser density with respect to the protuberances of the first series; said first and said second ply being glued together by a glue applied at some at least of said protuberances of the second series, the protuberances of the first series being essentially free of glue; and wherein at least some of the protuberances of the first series are colored.

27. Material as claimed in claim 25 or 26, characterized in that said glue is colored.

28. Material as claimed in claims 26 and 27, characterized in that said protuberances of the first series are colored with a different shade of the same color with which the glue is colored.

29. Material as claimed in claim 26 or 27, characterized in that the  
5 protuberances of the first series have an average density ranging from 20 to 100 protuberances/cm<sup>2</sup> and preferably from 30 to 90 protuberances/cm<sup>2</sup> and even more preferably from 30 to 60 protuberances/cm<sup>2</sup>.

30. Material as claimed in one or more of claims 25 to 29,  
10 characterized in that the colored surface of said first ply is lower than 25% of the total surface of the first ply and preferably between 1% and 20% of the total surface of the first ply and more preferably between 7% and 10 % of the total surface of the first ply.

31. Material as claimed in one or more of claims 26 to 30,  
15 characterized in that the protuberances of the second series define decorative motifs distributed according to a density not exceeding three motifs/cm<sup>2</sup> and preferably ranging from 1 to 5 motifs/dm<sup>2</sup>.

32. Material as claimed in one or more of claims 25 to 31,  
characterized in that said second ply (V2) has a background embossing defined by a third series of protuberances (P3).

20 33. Material as claimed in claim 32, characterized in that the protuberances of said third series are distributed with a density ranging from 20 to 100 protuberances/cm<sup>2</sup> and preferably from 30 to 90 protuberances/cm<sup>2</sup> and even more preferably from 30 to 60 protuberances/cm<sup>2</sup>.

34. Material as claimed in one or more of claims 25 to 31,  
25 characterized in that said second ply is free of protuberances added to the ply after its production.

35. Material as claimed in one or more of claims 25 to 30,  
characterized in that the base color of said first and second ply is neutral and preferably white.

30 36. Material as claimed in one or more of claims 26 to 35, characterized in that said colored pattern is a background pattern constituted by coloring the protuberances of said first series of protuberances forming the background embossing.

37. Material as claimed in one or more of claims 25 to 35,

characterized in that said colored pattern and said decorative embossing are phased with each other to form composite printed and embossed decorations.